UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,750	08/01/2003	Yutaka Takata	16869K-086100US	4662

20350   7590   04/16/2008
TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER
PUENTE, EMERSON C

ART UNIT	PAPER NUMBER
2113	

MAIL DATE	DELIVERY MODE
04/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/632,750	TAKATA ET AL.
Office Action Summary	Examiner	Art Unit	
	Emerson C. Puente	2113	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 January 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>01 August 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

         1.☒ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/7/08</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   **Office Action Summary**   Part of Paper No./Mail Date 20080407

DETAILED ACTION

This action is made Final.

Claims 1-20 have been examined.

Claim Objections

Claims 1, 13, 14, and 17 are objected to because of the following informalities. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper form, or rewrite the claim(s) in independent form.

Claims 1, 13, and 14 uses the phrase "configured to" followed by some action. This phrase fails to positively recite that the action is actually performed, only that the device is configured to do so. The claim should be amended to positively recite the action being performed. For example, in claim 1, "the network controller configured to receive a data" (see line 2 of claim) should be changed to "the network controller to receive a data". For the purposes of evaluating the claims and their scope in light of the prior art they are being interpreted as if the action is actually being performed.

Furthermore, claims 13 and 17 uses the phrase "capable of" followed by some action. This phrase fails to positively recite that the action is actually performed, only that the device is capable to do so. The claim should be amended to positively recite the action being performed. For example, in claim 13, "the circuit boards is capable of being detected" (see line 11 of claim) should be changed to "the circuit boards is being detected". For the purposes of evaluating the claims and their scope in light of the prior art they are being interpreted as if the action is actually being performed.

Furthermore, claim 14 recites "… the network controller is configured to generate…"

(see second to last line of claim). Please change limitation to "… generating by the network

controller …" as the claim is directed to a method, and therefore should recite steps or a process.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent

No. 6,920,580 of Cramer et al. referred hereinafter "Cramer" in view of US Patent Application

No 2003/0145130 of Schultz et al. referred hereinafter "Schultz".

Regarding claim 1, Cramer discloses a disc controller comprising:

a network controlling unit configured to receive a data input/output request sent from an

external device through a network (see figure 2 and column 6 lines 1-6).

a disc controlling unit coupled to the network controlling unit by an internal bus provided

in the circuit board (see figure 2 and column 6 lines 1-6).

wherein the disc controlling unit is configured to receive a command sent from the

network controlling unit through the internal bus and execute a data input/output for a disc drive

in response to the command (see column 6 lines 18-20).

wherein the network controlling unit is configured to send the command, for which a

plurality of addresses are set, to the disc controlling unit (see column 6 lines 30-35).

wherein the disc controlling unit is configured to receive the command and execute data

input/output corresponding to each of the addresses set in the command for the disc drive (see

column 6 lines 20-25).

wherein when a file is to be processed based on the data input/output request is to be

divided and stored in a plurality of storage areas of a disc drive, the network controlling unit is

configured to generate the command in which a combination of a number of blocks and a

plurality of logical addresses for designating respective divided storage areas are set. Cramer

discloses information is stored in hard disks (see column 6 lines 17-20) and RAID arrays (see

column 6 lines 11-16), indicating dividing and storing I/O request in a plurality of storage areas

of a disc drive. Cramer further discloses the storage adapter cooperating with the storage

operating system executed on the processor to access the hard disks (see column 6 lines 17-20),

implying a command in which a combination of a number of blocks and a plurality of logical

addresses for designating respective divided storage areas are set.

However, Cramer fails to explicitly disclose:

the disc controlling unit formed in a same circuit board in which the network controlling

unit is formed.

Schultz discloses a network attach storage controller embodied as a printed circuit board

(see page 3 paragraph 28).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Cramer and Schultz to have the disk controller embodied

as a printed circuit board, thus indicating the disc controlling unit formed in a same circuit board

in which the network controlling unit is formed. A person of ordinary skill in the art at the time

of the invention could have been motivated because Cramer is concerned with providing a filer

or disk controller (see figure 2 and column 5 lines 16-17) and having disk controllers embodied

on a printed circuit board, as per teachings of Schultz (see page 3 page 3), constitute a suitable

well known implementation of disk controllers.

Regarding claim 2, Cramer in view of Schultz discloses the claim limitations as discussed

above. Cramer further discloses a file system operates in the network controlling unit, the data

input/output request designates data, which is input/output to/from the disc drive, based on a file

name, and the network controlling unit generates an address corresponding to a storage location

of data on the disc drive, which corresponds to the file name set for the data input/output request,

and sets the address in the command (see column 6 lines 8-12).

Regarding claim 3, Cramer in view of Schultz discloses the claim limitations as discussed

above. Cramer further discloses wherein the address is a logical address for designating a storage

location of data in a logical area organized in a disc space of the disc drive (see column 1 lines

23-26).

Regarding claim 4, Cramer in view of Schultz discloses the claim limitations as discussed

above. Cramer further discloses wherein the internal bus is a PCI bus (see column 6 lines 5-6).

Regarding claim 5, Cramer in view of Schultz discloses the claim limitations as discussed

above. Cramer further discloses wherein the network controlling unit includes a communicating

section communicating with the external device in accordance with a network protocol (see

column 6 lines 40-55).

Regarding claim 6, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses:

a memory accessible in a sharing manner by both the network controlling unit and the disc controlling unit is formed in the circuit board (see figure 2 item 151 and column 5 lines 50-55).

the network controlling unit and the disc controlling unit update, at a predetermined timing, operation state information indicating each of a plurality of operation states of the network controlling unit and the disc controlling unit, which is stored in the memory (see column 5 lines 50-55).

an occurrence of faults in the network controlling unit and disc controlling unit is detected based on the operation state information (see column 5 lines 50-55).

Regarding claim 7, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein the network controlling unit acquires, from the operation state information, an operation state of the disc controlling unit which is a sending destination of the command when the network controlling unit sends the command to the disc controlling unit, and determines, depending on the acquired operation state, whether the command should be sent to the disc controlling unit (see column 5 lines 57-67).

Regarding claim 8, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein the network controlling unit investigates the operation state of the disc controlling unit which is a sending destination of the command based on the operation state information when the network controlling unit can not acquire a receipt notification concerning the command sent to the disc controlling unit, and determines, depending

on a investigation result thereof, whether the command should be sent to the disc controlling unit

again (see column 5 lines 57-67).

Regarding claim 9, Cramer in view of Schultz discloses the claim limitations as discussed

above. Cramer further discloses wherein the network controlling unit investigates the operation

state of the disc controlling unit which is a sending destination of the command based on the

operation state information when the network controlling unit can not acquire a receipt

notification concerning the command sent to the disc controlling unit, and when the network

controlling unit judges that the disc controlling unit is not normally operating, the network

controlling unit sends the command to at least one of other disc controlling units (see column 5

lines 57-67).

Regarding claim 10, Cramer in view of Schultz discloses the claim limitations as

discussed above. Cramer further discloses a user interface for notifying the occurrence of the

faults when the occurrence of the faults is detected (see column 3 lines 39-42).

Regarding claim 11, Cramer in view of Schultz discloses the claim limitations as

discussed above. Cramer further discloses wherein when the occurrence of the faults is detected,

a signal for requesting a restart is sent to one of the network controlling unit and the disc

controlling unit where the faults have occurred (column 8 lines 50-52).

Regarding claim 12, Cramer in view of Schultz discloses the claim limitations as

discussed above. Cramer further discloses wherein the disc controlling unit includes an interface

for connecting a backup device thereto, the network controlling unit includes a section for

receiving a backup request concerning the data stored in the disc drive from the external device,

and for sending a backup command to the disc controlling unit, the disc controlling unit includes

a section for sending a backup instruction concerning the data stored in the disc drive to the backup device upon receipt of the backup command (see column 5 lines 15-45).

Regarding claim 13, Cramer discloses a disc controller comprising:

a network controlling unit configured to receive a data input/output request sent through a network (see figure 2 and column 6 lines 1-6).

a disc controlling unit being coupled to the network controlling unit by an internal bus provided, the disc controlling unit configured to receive a command sent from the network controlling unit through the internal bus, and input/output data to/from a disc drive in response to the command (see figure 2 and column 6 lines 1-6).

wherein a plurality of circuit boards connected so as to be capable of communicating with each other are provided (see column 8 lines 5-15).

wherein an occurrence of a fault of one of the circuit boards is capable of being detected by one of the other circuit boards by exchanging a heartbeat message among the circuit boards (see column 8 lines 5-15).

wherein when the occurrence of the fault of one circuit board is detected by one of the other circuit boards, a circuit board other than the circuit board causing the faults stands substitutes for a processing of the circuit board causing the faults (see column 8 lines 15-20).

wherein when a file is to be processed based on the data input/output request is to be divided and stored in a plurality of storage areas of a disc drive, the network controlling unit is configured to generate the command in which a combination of a number of blocks and a plurality of logical addresses for designating respective divided storage areas are set. Cramer discloses information is stored in hard disks (see column 6 lines 17-20) and RAID arrays (see

column 6 lines 11-16), indicating dividing and storing I/O request in a plurality of storage areas

of a disc drive. Cramer further discloses the storage adapter cooperating with the storage

operating system executed on the processor to access the hard disks (see column 6 lines 17-20),

implying a command in which a combination of a number of blocks and a plurality of logical

addresses for designating respective divided storage areas are set.

However, Cramer fails to explicitly disclose:

the disc controlling unit formed in a same circuit board in which the network controlling

unit is formed.

Schultz discloses a network attach storage controller embodied as a printed circuit board

(see page 3 paragraph 28).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Cramer and Schultz to have the disk controller embodied

as a printed circuit board, thus indicating the disc controlling unit formed in a same circuit board

in which the network controlling unit is formed. A person of ordinary skill in the art at the time

of the invention could have been motivated because Cramer is concerned with providing a filer

or disk controller (see figure 2 and column 5 lines 16-17) and having disk controllers embodied

on a printed circuit board, as per teachings of Schultz (see page 3 page 3), constitute a suitable

well known implementation of disk controllers.

Regarding claim 14, Cramer discloses a controlling method of a disc controller having a

network controlling unit configured to receive a data input/output request sent from an external

device through a network(see figure 2 and column 6 lines 1-6) and a disc controlling unit

connected to the network controlling unit by an internal bus provided in the circuit board (see

figure 2 and column 6 lines 1-6), receiving a command sent from the network controlling unit

through the internal bus, and inputting/outputting data to/from a disc drive in response to the

command (see column 6 lines 18-20), the method comprising:

by means of the network controlling unit sending one command, for which a plurality of

addresses are set, to the disc controlling unit (see column 6 lines 30-35).

by means of the disc controlling unit receiving the command and executing data

input/output corresponding to each of the addresses set in this command for the disc drive (see

column 6 lines 20-25).

wherein when a file is to be processed based on the data input/output request is to be

divided and stored in a plurality of storage areas of a disc drive, the network controlling unit is

configured to generate the command in which a combination of a number of blocks and a

plurality of logical addresses for designating respective divided storage areas are set. Cramer

discloses information is stored in hard disks (see column 6 lines 17-20) and RAID arrays (see

column 6 lines 11-16), indicating dividing and storing I/O request in a plurality of storage areas

of a disc drive. Cramer further discloses the storage adapter cooperating with the storage

operating system executed on the processor to access the hard disks (see column 6 lines 17-20),

implying a command in which a combination of a number of blocks and a plurality of logical

addresses for designating respective divided storage areas are set.

However, Cramer fails to explicitly disclose:

the disc controlling unit formed in a same circuit board in which the network controlling

unit is formed.

Schultz discloses a network attach storage controller embodied as a printed circuit board (see page 3 paragraph 28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cramer and Schultz to have the disk controller embodied as a printed circuit board, thus indicating the disc controlling unit formed in a same circuit board in which the network controlling unit is formed. A person of ordinary skill in the art at the time of the invention could have been motivated because Cramer is concerned with providing a filer or disk controller (see figure 2 and column 5 lines 16-17) and having disk controllers embodied on a printed circuit board, as per teachings of Schultz (see page 3 page 3), constitute a suitable well known implementation of disk controllers.

Regarding claim 15, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein the disc controlling unit includes a memory accessible in a sharing manner by both the network controlling unit and the disc controlling unit , the method further comprising updating by the network controlling unit and the disc controlling unit, at a predetermined timing, operation state information indicating each of a plurality of operation states of the network controlling unit and the disc controlling unit, which is stored in the memory and detecting an occurrence of faults in the network controlling unit and disc controlling unit based on the operation state information (see column 5 lines 50-55).

Regarding claim 16, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein the disc controlling unit includes an interface for connecting the external device thereto, the method further comprising receiving by the network controlling unit a backup request concerning data stored in the disc drive from the

external device, and sends sending a backup command to the disc controlling unit and sending by the disc controlling unit sends the backup command concerning the data of the disc drive to the backup device upon receipt of the backup command (see column 5 lines 15-45).

Regarding claim 17, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein the disc controlling unit includes the plurality of circuit boards connected so as to be capable of communicating with each other; the method further comprising detecting an occurrence of faults of one circuit board by one of the other circuit boards by exchanging a heartbeat message among the circuit boards (see column 8 lines 5-15) and when one circuit board detects the faults, one of the other circuit boards different from the circuit board causing the faults substituting for processing of the circuit board with the faults (see column 8 lines 15-20).

Regarding claim 18, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses a user interface for notifying the occurrence of the faults when the occurrence of the faults is detected (see column 3 lines 39-42).

Regarding claim 19, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein when the occurrence of the faults is detected, a signal for requesting a restart is sent to one of the network controlling unit and the disc controlling unit where the faults have occurred (column 8 lines 50-52).

Regarding claim 20, Cramer in view of Schultz discloses the claim limitations as discussed above. Cramer further discloses wherein the disc controlling unit includes an interface for connecting a backup device thereto, the network controlling unit includes a section for receiving a backup request concerning the data stored in the disc drive from the external device,

and for sending a backup command to the disc controlling unit, the disc controlling unit includes

a section for sending a backup instruction concerning the data stored in the disc drive to the

backup device upon receipt of the backup command (see column 5 lines 15-45).

Response to Arguments

Applicant's arguments filed January 23, 2008 have been fully considered but they are not

persuasive.

In regards to applicant's argument, "In the claims as amended, the network controlling

unit generates a single command in which 'a combination of a number of blocks and a plurality

of logical addresses for designating respective divided storage areas are set' when 'a file to be

processed based on the data input/output request is to be divided and stored in a plurality of

storage areas of a disc drive' (see also paragraphs [0063]-[0068])," (see page 10 of Remarks)

examiner respectively disagrees.

Although examiner agrees with applicant that prior art as cited fails to disclose "a single

command", examiner notes the claim fails to disclose such a limitation. Rather, the claim cites

"a command", which is interpreted as either one or more commands. As Cramer discloses

accessing stored information on hard disks (see column 6 lines 17-21), there inherently must be

command(s) in order to access the stored information. *If applicant's invention is directed to*

using a single command, examiner suggests amending the claim to explicitly cite "a single

command" or "only one command". Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van*

Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Argument is moot. Examiner

maintains his rejection.

In response to applicant's argument that there is no suggestion to combine the references,

the examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching,

suggestion, or motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, a person of ordinary skill in the art at the time of the invention could have been

motivated because Cramer is concerned with providing a filer or disk controller (see figure 2 and

column 5 lines 16-17) and having disk controllers embodied on a printed circuit board, as per

teachings of Schultz (see page 3 page 3), constitute a suitable well known implementation of disk

controllers.

.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Emerson C. Puente whose telephone number is 571-272-3652.

The examiner can normally be reached on 9-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Emerson C Puente/
Primary Examiner, Art Unit 2113